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<141> 2001-04-18

<150> PCT/US00/28066

<151> 2000-10-12

<150> 60/159,542

<151> 1999-10-15

<150> 60/165,914

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<151> 2000-03-14

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<170> PatentIn Ver. 2.0

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 Ile Ala Glu Leu Thr Leu Ala Ile Glu Ser Val His Lys Met Gly Phe

130	135	140
Ile His Arg Asp Ile Lys Pro Asp Asn Ile Leu Ile Asp Leu Asp Gly 145 150 155 160		
His Ile Lys Leu Thr Asp Phe Gly Leu Cys Thr Gly Phe Arg Trp Thr 165 170 175		
His Asn Ser Lys Tyr Tyr Gln Lys Gly Ser His Val Arg Gln Asp Ser 180 185 190		
Met Glu Pro Ser Asp Leu Trp Asp Asp Val Ser Asn Cys Arg Cys Gly 195 200 205		
Asp Arg Leu Lys Thr Leu Glu Gln Arg Ala Arg Lys Gln His Gln Arg 210 215 220		
Cys Leu Ala His Ser Leu Val Gly Thr Pro Asn Tyr Ile Ala Pro Glu 225 230 235 240		
Val Leu Leu Arg Lys Gly Tyr Thr Gln Leu Cys Asp Trp Trp Ser Val 245 250 255		
Gly Val Ile Leu Phe Glu Met Leu Val Gly Gln Pro Pro Phe Leu Ala 260 265 270		
Pro Thr Pro Thr Glu Thr Gln Leu Lys Val Ile Asn Trp Glu Asn Thr 275 280 285		
Leu His Ile Pro Ala Gln Val Lys Leu Ser Pro Glu Ala Arg Asp Leu 290 295 300		
Ile Thr Lys Leu Cys Cys Ser Ala Asp His Arg Leu Gly Arg Asn Gly 305 310 315 320		
Ala Asp Asp Leu Lys Ala His Pro Phe Phe Ser Ala Ile Asp Phe Ser 325 330 335		
Ser Asp Ile Arg Lys Gln Pro Ala Pro Tyr Val Pro Thr Ile Ser His 340 345 350		
Pro Met Asp Thr Ser Asn Phe Asp Pro Val Asp Glu Glu Ser Pro Trp 355 360 365		
Asn Asp Ala Ser Glu Gly Ser Thr Lys Ala Trp Asp Thr Leu Thr Ser 370 375 380		
Pro Asn Asn Lys His Pro Glu His Ala Phe Tyr Glu Phe Thr Phe Arg 385 390 395 400		
Arg Phe Phe Asp Asp Asn Gly Tyr Pro Phe Arg Cys Pro Lys Pro Ser 405 410 415		
Gly Ala Glu Ala Ser Gln Ala Glu Ser Ser Asp Leu Glu Ser Ser Asp 420 425 430		
Leu Val Asp Gln Thr Glu Gly Cys Gln Pro Val Tyr Val 435 440 445		

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			20					25					30			
Leu	Pro	Val	Glu	Met	Ala	Arg	Met	Tyr	Phe	Ala	Glu	Thr	Val	Leu	Ala	
		35					40					45				
Leu	Glu	Tyr	Leu	His	Asn	Tyr	Gly	Ile	Val	His	Arg	Asp	Leu	Lys	Pro	
	50					55					60					
Asp	Asn	Leu	Leu	Ile	Thr	Ser	Met	Gly	His	Ile	Lys	Leu	Thr	Asp	Phe	
65					70					75					80	
Gly	Leu	Ser	Lys	Met	Gly	Leu	Met	Ser	Leu	Thr	Thr	Asn	Leu	Tyr	Glu	
				85					90					95		
Gly	His	Ile	Glu	Lys	Asp	Ala	Arg	Glu	Phe	Leu	Asp	Lys	Gln	Val	Cys	
			100					105					110			
Gly	Thr	Pro	Glu	Tyr	Ile	Ala	Pro	Glu	Val	Ile	Leu	Arg	Gln	Gly	Tyr	
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Gly	Lys	Pro	Val	Asp	Trp	Trp	Ala	Met	Gly	Ile	Ile	Leu	Tyr	Glu	Phe	
	130					135					140					
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145					150					155					160	
Gly	Gln	Val	Ile	Ser	Asp	Asp	Ile	Leu	Trp	Pro	Glu	Gly	Asp	Glu	Ala	
				165					170					175		
Leu	Pro	Thr	Glu	Ala	Gln	Leu	Leu	Ile	Ser	Ser	Leu	Leu	Gln	Thr	Asn	
			180					185					190			
Pro	Leu	Val	Arg	Leu	Gly	Ala	Gly	Gly	Ala	Phe	Glu	Val	Lys	Gln	His	
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Ser	Phe	Phe	Arg	Asp	Leu	Asp	Trp	Thr	Gly	Leu	Leu	Arg	Gln	Lys	Ala	
	210					215					220					
Glu	Phe	Ile	Pro	His	Leu	Glu	Ser	Glu	Asp	Asp	Thr	Ser	Tyr	Phe	Asp	
225					230					235					240	
Thr	Arg	Ser	Asp	Arg	Tyr	His	His	Val	Asn	Ser	Tyr	Asp	Glu	Asp	Asp	
				245					250					255		
Thr	Thr	Glu	Glu	Glu	Pro	Val	Glu	Ile	Arg	Gln	Phe	Ser	Ser	Cys	Ser	
			260					265					270			

Pro	Arg	Phe	Ser	Lys	Val	Tyr	Ser	Ser	Met	Glu	Gln	Leu	Ser	Gln	His
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Glu	Pro	Lys	Thr	Pro	Val	Ala	Ala	Ala	Gly	Ser	Ser	Lys	Arg	Glu	Pro
	290					295					300				
Ser	Thr	Lys	Gly	Pro	Glu	Glu	Lys	Val	Ala	Gly	Lys	Arg	Glu	Gly	Leu
305					310					315					320
Gly	Gly	Leu	Thr	Leu	Arg	Glu	Lys	Thr	Trp	Arg	Gly	Gly	Ser	Pro	Glu
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Ile	Lys	Arg	Phe	Ser	Ala	Ser	Glu	Ala	Ser	Phe	Leu	Glu	Gly	Glu	Ala
			340					345					350		
Ser	Pro	Pro	Leu	Gly	Ala	Arg	Arg	Arg	Phe	Ser	Ala	Leu	Leu	Glu	Pro
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Ser	Arg	Phe	Ser	Ala	Pro	Gln	Glu	Asp	Glu	Asp	Glu	Ala	Arg	Leu	Arg
	370					375					380				
Arg	Pro	Pro	Arg	Pro	Ser	Ser	Asp	Pro	Ala	Gly	Ser	Leu	Asp	Ala	Arg
385					390					395					400
Ala	Pro	Lys	Glu	Glu	Thr	Gln	Gly	Glu	Gly	Thr	Ser	Ser	Ala	Gly	Asp
				405					410					415	
Ser	Glu	Ala	Thr	Asp	Arg	Pro	Arg	Pro	Gly	Asp	Leu	Cys	Pro	Pro	Ser
			420					425				430			
Lys	Asp	Gly	Asp	Ala	Ser	Gly	Pro	Arg	Ala	Thr	Asn	Asp	Leu	Val	Leu
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Arg	Arg	Ala	Arg	His	Gln	Gln	Met	Ser	Gly	Asp	Val	Ala	Val	Glu	Lys
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Arg	Pro	Ser	Arg	Thr	Gly	Gly	Lys	Val	Ile	Lys	Ser	Ala	Ser	Ala	Thr
465					470					475					480
Ala	Leu	Ser	Val	Met	Ile	Pro	Ala	Val	Asp	Pro	His	Gly	Ser	Ser	Pro
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Leu	Ala	Ser	Pro	Met	Ser	Pro	Arg	Ser	Leu	Ser	Ser	Asn	Pro	Ser	Ser
			500					505					510		
Arg	Asp	Ser	Ser	Pro	Ser	Arg	Asp	Tyr	Ser	Pro	Ala	Val	Ser	Gly	Leu
		515					520					525			
Arg	Ser	Pro	Ile	Thr	Ile	Gln	Arg	Ser	Gly	Lys	Lys	Tyr	Gly	Phe	Thr
		530				535					540				
Leu	Arg	Ala	Ile	Arg	Val	Tyr	Met	Gly	Asp	Thr	Asp	Val	Tyr	Ser	Val
545					550					555					560
His	His	Ile	Val	Trp	His	Val	Glu	Glu	Gly	Gly	Pro	Ala	Gln	Glu	Ala
				565					570					575	

Gly	Leu	Cys	Ala 580	Gly	Asp	Leu	Ile	Thr 585	His	Val	Asn	Gly	Glu 590	Pro	Val
His	Gly	Met 595	Val	His	Pro	Glu	Val 600	Val	Glu	Leu	Ile	Leu 605	Lys	Ser	Gly
Asn	Lys 610	Val	Ala	Val	Thr	Thr 615	Thr	Pro	Phe	Glu	Asn 620	Thr	Ser	Ile	Arg
Ile 625	Gly	Pro	Ala	Arg	Arg 630	Ser	Ser	Tyr	Lys	Ala 635	Lys	Met	Ala	Arg	Arg 640
Asn	Lys	Arg	Pro	Ser 645	Ala	Lys	Glu	Gly	Gln 650	Glu	Ser	Lys	Lys	Arg 655	Ser
Ser	Leu	Phe 660	Arg	Lys	Ile	Thr	Lys	Gln 665	Ser	Asn	Leu	Leu	His 670	Thr	Ser
Arg	Ser	Leu 675	Ser	Ser	Leu	Asn	Arg 680	Ser	Leu	Ser	Ser	Ser 685	Asp	Ser	Leu
Pro	Gly 690	Ser	Pro	Thr	His	Gly 695	Leu	Pro	Ala	Arg	Ser 700	Pro	Thr	His	Ser
Tyr 705	Arg	Ser	Thr	Pro	Asp 710	Ser	Ala	Tyr	Leu	Gly 715	Ala	Ser	Ser	Gln	Ser 720
Ser	Ser	Pro	Ala	Ser 725	Ser	Thr	Pro	Asn	Ser 730	Pro	Ala	Ser	Ser	Ala	Ser 735
His	His	Ile 740	Arg	Pro	Ser	Thr	Leu	His 745	Gly	Leu	Ser	Pro	Lys 750	Leu	His
Arg	Gln	Tyr 755	Arg	Ser	Ala	Arg	Cys 760	Lys	Ser	Ala	Gly	Asn 765	Ile	Pro	Leu
Ser	Pro 770	Leu	Ala	His	Thr	Pro 775	Ser	Pro	Thr	Gln	Ala 780	Ser	Pro	Pro	Pro
Leu 785	Pro	Gly	His	Thr 790	Val	Gly	Ser	Ser	His	Thr 795	Thr	Gln	Ser	Phe	Pro 800
Ala	Lys	Leu	His	Ser 805	Ser	Pro	Pro	Val	Val 810	Arg	Pro	Arg	Pro	Lys 815	Ser
Ala	Glu	Pro	Pro 820	Arg	Ser	Pro	Leu	Leu 825	Lys	Arg	Val	Gln	Ser 830	Ala	Glu
Lys	Leu	Gly 835	Ala	Ser	Leu	Ser	Ala 840	Asp	Lys	Lys	Gly	Ala 845	Leu	Arg	Lys
His 850	Ser	Leu	Glu	Val	Gly	His 855	Pro	Asp	Phe	Arg	Lys 860	Asp	Phe	His	Gly
Glu 865	Leu	Ala	Leu	His	Ser 870	Leu	Ala	Glu	Ser	Asp 875	Gly	Glu	Thr	Pro	Pro 880
Val	Glu	Gly	Leu	Gly	Ala	Pro	Arg	Gln	Val	Ala	Val	Arg	Arg	Leu	Gly

885 890 895
 Arg Gln Glu Ser Pro Leu Ser Leu Gly Ala Asp Pro Leu Leu Pro Glu
 900 905 910
 Gly Ala Ser Arg Pro Pro Val Ser Ser Lys Glu Lys Glu Ser Pro Gly
 915 920 925
 Gly Ala Glu Ala Cys Thr Pro Pro Arg Ala Thr Thr Pro Gly Gly Arg
 930 935 940
 Thr Leu Glu Arg Asp Val Gly Cys Thr Arg His Gln Ser Val Gln Thr
 945 950 955 960
 Glu Asp Gly Thr Gly Gly Met Ala Arg Ala Val Ala Lys Ala Ala Leu
 965 970 975
 Ser Pro Val Gln Glu His Glu Thr Gly Arg Arg Ser Ser Ser Gly Glu
 980 985 990
 Ala Gly Thr Pro Leu Val Pro Ile Val Val Glu Pro Ala Arg Pro Gly
 995 1000 1005
 Ala Lys Ala Val Val Pro Gln Pro Leu Gly Ala Asp Ser Lys Gly Leu
 1010 1015 1020
 Gln Glu Pro Ala Pro Leu Ala Pro Ser Val Pro Glu Ala Pro Arg Gly
 1030 1035 1040
 Arg Glu Arg Trp Val Leu Glu Val Val Glu Glu Arg Thr Thr Leu Ser
 1045 1050 1055
 Gly Pro Arg Ser Lys Pro Ala Ser Pro Lys Leu Ser Pro Glu Pro Gln
 1060 1065 1070
 Thr Pro Ser Leu Ala Pro Ala Lys Cys Ser Ala Pro Ser Ser Ala Val
 1075 1080 1085
 Thr Pro Val Pro Pro Ala Ser Leu Leu Gly Ser Gly Thr Lys Pro Gln
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 Leu Thr Lys Lys Gly Val Ser Ser Pro Ala Pro Pro Gly Pro
 1125 1130

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 <213> Homo sapiens

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 Met Lys Ser Arg Val Lys Gly Ser Pro Val Tyr Thr Ala Pro Glu Val
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Val Arg Gly Ala Asp Phe Ser Ile Ser Ser Asp Leu Trp Ser Leu Gly

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Cys	Leu	Leu	Tyr	Glu	Met	Phe	Ser	Gly	Lys	Pro	Pro	Phe	Phe	Ser	Glu	
	35						40					45				
Ser	Ile	Ser	Glu	Leu	Thr	Glu	Lys	Ile	Leu	Cys	Glu	Asp	Pro	Leu	Pro	
	50					55					60					
Pro	Ile	Pro	Lys	Asp	Ser	Ser	Arg	Pro	Lys	Ala	Ser	Ser	Asp	Phe	Ile	
65					70					75					80	
Asn	Leu	Leu	Asp	Gly	Leu	Leu	Gln	Arg	Asp	Pro	Gln	Lys	Arg	Leu	Thr	
				85					90					95		
Trp	Thr	Arg	Leu	Leu	Gln	His	Ser	Phe	Trp	Lys	Lys	Ala	Phe	Ala	Gly	
			100					105					110			
Ala	Asp	Gln	Glu	Ser	Ser	Val	Glu	Asp	Leu	Ser	Leu	Ser	Arg	Asn	Thr	
		115					120					125				
Met	Glu	Cys	Ser	Gly	Pro	Gln	Asp	Ser	Lys	Glu	Leu	Leu	Gln	Asn	Ser	
	130					135					140					
Gln	Ser	Arg	Gln	Ala	Lys	Gly	His	Lys	Ser	Gly	Gln	Pro	Leu	Gly	His	
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Ser	Phe	Arg	Leu	Glu	Asn	Pro	Thr	Glu	Phe	Arg	Pro	Lys	Gly	Thr	Leu	
				165					170					175		
Glu	Gly	Gln	Leu	Asn	Glu	Ser	Met	Phe	Leu	Leu	Ser	Ser	Arg	Pro	Thr	
			180					185					190			
Pro	Arg	Thr	Ser	Thr	Ala	Val	Glu	Val	Ser	Pro	Gly	Glu	Asp	Met	Thr	
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His	Cys	Ser	Pro	Gln	Lys	Thr	Ser	Pro	Leu	Thr	Lys	Ile	Thr	Ser	Gly	
	210				215						220					
His	Leu	Ser	Gln	Gln	Asp	Leu	Glu	Ser	Gln	Met	Arg	Glu	Leu	Ile	Tyr	
225					230					235					240	
Thr	Asp	Ser	Asp	Leu	Val	Val	Thr	Pro	Ile	Ile	Asp	Asn	Pro	Lys	Ile	
				245					250					255		
Met	Lys	Gln	Pro	Pro	Val	Lys	Phe	Asp	Ala	Lys	Ile	Leu	His	Leu	Pro	
			260					265					270			
Thr	Tyr	Ser	Val	Asp	Lys	Leu	Leu	Phe	Leu	Lys	Asp	Gln	Asp	Trp	Asn	
		275					280					285				
Asp	Phe	Leu	Gln	Gln	Val	Cys	Ser	Gln	Ile	Asp	Ser	Thr	Glu	Lys	Ser	
	290					295					300					
Met	Gly	Ala	Ser	Arg	Ala	Lys	Leu	Asn	Leu	Leu	Cys	Tyr	Leu	Cys	Val	
305					310					315					320	
Val	Ala	Gly	His	Gln	Glu	Val	Ala	Thr	Arg	Leu	Leu	His	Ser	Pro	Leu	
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Met Ile His Arg Asp Leu Lys Pro Val Asn Ile Phe Leu Asp Ser Asp

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Phe Ser Ala Asp Ser Lys Gln Asp Asp Gln Thr Gly Asp Leu Ile Lys	35	40	45
Ser Asp Pro Ser Gly His Leu Thr Gly Met Val Gly Thr Ala Leu Tyr	50	55	60
Val Ser Pro Glu Val Gln Gly Ser Thr Lys Ser Ala Tyr Asn Gln Lys	65	70	75
Val Asp Leu Phe Ser Leu Gly Ile Ile Phe Phe Glu Met Ser Tyr His	85	90	95
Pro Met Val Thr Ala Ser Glu Arg Ile Phe Val Leu Asn Gln Leu Arg	100	105	110
Asp Pro Thr Ser Pro Lys Phe Pro Glu Asp Phe Asp Asp Gly Glu His	115	120	125
Ala Lys Gln Lys Ser Val Ile Ser Trp Leu Leu Asn His Asp Pro Ala	130	135	140
Lys Arg Pro Thr Ala Thr Glu Leu Leu Lys Ser Glu Leu Leu Pro Pro	145	150	155
Pro Gln Met Glu Glu Ser Glu Leu His Glu Val Leu His His Thr Leu	165	170	175
Thr Asn Val Asp Gly Lys Ala Tyr Arg Thr Met Met Ala Gln Ile Phe	180	185	190
Ser Gln Arg Ile Ser Pro Ala Ile Asp Tyr Thr Tyr Asp Ser Asp Ile	195	200	205
Leu Lys Gly Asn Phe Ser Ile Arg Thr Ala Lys Met Gln Gln His Val	210	215	220
Cys Glu Thr Ile Ile Arg Ile Phe Lys Arg His Gly Ala Val Gln Leu	225	230	235
Cys Thr Pro Leu Leu Leu Pro Arg Asn Arg Gln Ile Tyr Glu His Asn	245	250	255
Glu Ala Ala Leu Phe Met Asp His Ser Gly Met Leu Val Met Leu Pro	260	265	270
Phe Asp Leu Arg Ile Pro Phe Ala Arg Tyr Val Ala Arg Asn Asn Ile	275	280	285
Leu Asn Leu Lys Arg Tyr Cys Ile Glu Arg Val Phe Arg Pro Arg Lys	290	295	300
Leu Asp Arg Phe His Pro Lys Glu Leu Leu Glu Cys Ala Phe Asp Ile	305	310	315
			320

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Val	Thr	Ser	Thr	Thr	Asn	Ser	Phe	Leu	Pro	Thr	Ala	Glu	Ile	Ile	Tyr
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Thr	Ile	Tyr	Glu	Ile	Ile	Gln	Glu	Phe	Pro	Ala	Leu	Gln	Glu	Arg	Asn
				340						345		350			
Tyr	Ser	Ile	Tyr	Leu	Asn	His	Thr	Met	Leu	Leu	Lys	Ala	Ile	Leu	Leu
				355						360		365			
His	Cys	Gly	Ile	Pro	Glu	Asp	Lys	Leu	Ser	Gln	Val	Tyr	Ile	Ile	Leu
				370						375		380			
Tyr	Asp	Ala	Val	Thr	Glu	Lys	Leu	Thr	Arg	Arg	Glu	Val	Glu	Ala	Lys
385				390		395				400					
Phe	Cys	Asn	Leu	Ser	Leu	Ser	Ser	Asn	Ser	Leu	Cys	Arg	Leu	Tyr	Lys
				405						410		415			
Phe	Ile	Glu	Gln	Lys	Gly	Asp	Leu	Gln	Asp	Leu	Met	Pro	Thr	Ile	Asn
				420						425		430			
Ser	Leu	Ile	Lys	Gln	Lys	Thr	Gly	Ile	Ala	Gln	Leu	Val	Lys	Tyr	Gly
				435						440		445			
Leu	Lys	Asp	Leu	Glu	Glu	Val	Val	Gly	Leu	Leu	Lys	Lys	Leu	Gly	Ile
				450						455		460			
Lys	Leu	Gln	Val	Leu	Ile	Asn	Leu	Gly	Leu	Val	Tyr	Lys	Val	Gln	Gln
465				470		475				480					
His	Asn	Gly	Ile	Ile	Phe	Gln	Phe	Val	Ala	Phe	Ile	Lys	Arg	Arg	Gln
				485						490		495			
Arg	Ala	Val	Pro	Glu	Ile	Leu	Ala	Ala	Gly	Gly	Arg	Tyr	Asp	Leu	Leu
				500						505		510			
Ile	Pro	Gln	Phe	Arg	Gly	Pro	Gln	Ala	Leu	Gly	Pro	Val	Pro	Thr	Ala
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Ile	Gly	Val	Ser	Ile	Ala	Ile	Asp	Lys	Ile	Ser	Ala	Ala	Val	Leu	Asn
				530						535		540			
Met	Glu	Glu	Ser	Val	Thr	Ile	Ser	Ser	Cys	Asp	Leu	Leu	Val	Val	Ser
545				550		555				560					
Val	Gly	Gln	Met	Ser	Met	Ser	Arg	Ala	Ile	Asn	Leu	Thr	Gln	Lys	Leu
				565						570		575			
Trp	Thr	Ala	Gly	Ile	Thr	Ala	Glu	Ile	Met	Tyr	Asp	Trp	Ser	Gln	Ser
				580						585		590			
Gln	Glu	Glu	Leu	Gln	Glu	Tyr	Cys	Arg	His	His	Glu	Ile	Thr	Tyr	Val
				595						600		605			
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Ser Ala Val His Tyr Cys His Lys Asn Gly Val Val His Arg Asp Leu
                35                        40                        45
Lys Leu Glu Asn Ile Leu Leu Asp Asp Asn Cys Asn Ile Lys Ile Ala
                50                        55                        60
Asp Phe Gly Leu Ser Asn Leu Tyr Gln Lys Asp Lys Phe Leu Gln Thr
                65                        70                        75                        80

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Phe Cys Gly Ser Pro Leu Tyr Ala Ser Pro Glu Ile Val Asn Gly Arg
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 Pro Tyr Arg Gly Pro Glu Val Asp Ser Trp Ala Leu Gly Val Leu Leu
 100 105 110
 Tyr Thr Leu Val Tyr Gly Thr Met Pro Phe Asp Gly Phe Asp His Lys
 115 120 125
 Asn Leu Ile Arg Gln Ile Ser Ser Gly Glu Tyr Arg Glu Pro Thr Gln
 130 135 140
 Pro Ser Asp Ala Arg Gly Leu Ile Arg Trp Met Leu Met Val Asn Pro
 145 150 155 160
 Asp Arg Arg Ala Thr Ile Glu Asp Ile Ala Asn His Trp Trp Val Asn
 165 170 175
 Trp Gly Tyr Lys Ser Ser Val Cys Asp Cys Asp Ala Leu His Asp Ser
 180 185 190
 Glu Ser Pro Leu Leu Ala Arg Ile Ile Asp Trp His His Arg Ser Thr
 195 200 205
 Gly Leu Gln Ala Asp Thr Glu Ala Lys Met Lys Gly Leu Ala Lys Pro
 210 215 220
 Thr Thr Ser Glu Val Met Leu Glu Arg Gln Arg Ser Leu Lys Lys Ser
 225 230 235 240
 Lys Lys Glu Asn Asp Phe Ala Gln Ser Gly Gln Asp Ala Val Pro Glu
 245 250 255
 Ser Pro Ser Lys Leu Ser Ser Lys Arg Pro Lys Gly Ile Leu Lys Lys
 260 265 270
 Arg Ser Asn Ser Glu His Arg Ser His Ser Thr Gly Phe Ile Glu Gly
 275 280 285
 Val Val Gly Pro Ala Leu Pro Ser Thr Phe Lys Met Glu Gln Asp Leu
 290 295 300
 Cys Arg Thr Gly Val Leu Leu Pro Ser Ser Pro Glu Ala Glu Val Pro
 305 310 315 320
 Gly Lys Leu Ser Pro Lys Gln Ser Ala Thr Met Pro Lys Lys Gly Ile
 325 330 335
 Leu Lys Lys Thr Gln Gln Arg Glu Ser Gly Tyr Tyr Ser Ser Pro Glu
 340 345 350
 Arg Ser Glu Ser Ser Glu Leu Leu Asp Ser Asn Asp Val Met Gly Ser
 355 360 365
 Ser Ile Pro Ser Pro Ser Pro Pro Asp Pro Ala Arg Val Thr Ser His
 370 375 380
 Ser Leu Ser Cys Arg Arg Lys Gly Ile Leu Lys His Ser Ser Lys Tyr

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385	390															395					400				
Ser	Ala	Gly	Thr	Met	Asp	Pro	Ala	Leu	Val	Ser	Arg	Glu	Met	Pro	Thr										
				405					410					415											
Leu	Glu	Ser	Leu	Ser	Glu	Pro	Gly	Val	Pro	Ala	Glu	Gly	Leu	Ser	Arg										
			420					425					430												
Ser	Tyr	Ser	Arg	Pro	Ser	Ser	Val	Ile	Ser	Asp	Asp	Ser	Val	Leu	Ser										
		435					440					445													
Ser	Asp	Ser	Phe	Asp	Leu	Leu	Asp	Leu	Gln	Glu	Asn	Arg	Pro	Ala	Arg										
	450					455					460														
Gln	Arg	Ile	Arg	Ser	Cys	Val	Ser	Ala	Glu	Asn	Phe	Leu	Gln	Ile	Gln										
465					470					475					480										
Asp	Phe	Glu	Gly	Leu	Gln	Asn	Arg	Pro	Arg	Pro	Gln	Tyr	Leu	Lys	Arg										
				485					490					495											
Tyr	Arg	Asn	Arg	Leu	Ala	Asp	Ser	Ser	Phe	Ser	Leu	Leu	Thr	Asp	Met										
			500					505					510												
Asp	Asp	Val	Thr	Gln	Val	Tyr	Lys	Gln	Ala	Leu	Glu	Ile	Cys	Ser	Lys										
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Leu	Asn																								
	530																								
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Phe	Arg	Gln	Glu	Ala	Ser	Met	Leu	His	Ala	Leu	Gln	His	Pro	Cys	Ile										
			20					25					30												
Val	Ala	Leu	Ile	Gly	Ile	Ser	Ile	His	Pro	Leu	Cys	Phe	Ala	Leu	Glu										
		35					40					45													
Leu	Ala	Pro	Leu	Ser	Ser	Leu	Asn	Thr	Val	Leu	Ser	Glu	Asn	Ala	Arg										
	50					55					60														
Asp	Ser	Ser	Phe	Ile	Pro	Leu	Gly	His	Met	Leu	Thr	Gln	Lys	Ile	Ala										
65					70					75					80										
Tyr	Gln	Ile	Ala	Ser	Gly	Leu	Ala	Tyr	Leu	His	Lys	Lys	Asn	Ile	Ile										
				85					90					95											
Phe	Cys	Asp	Leu	Lys	Ser	Asp	Asn	Ile	Leu	Val	Trp	Ser	Leu	Asp	Val										
			100					105					110												
Lys	Glu	His	Ile	Asn	Ile	Lys	Leu	Ser	Asp	Tyr	Gly	Ile	Ser	Arg	Gln										

115	120	125
Ser Phe His Glu Gly Ala Leu Gly Val Glu Gly Thr Pro Gly Tyr Gln		
130	135	140
Ala Pro Glu Ile Arg Pro Arg Ile Val Tyr Asp Glu Lys Val Asp Met		
145	150	155
Phe Ser Tyr Gly Met Val Leu Tyr Glu Leu Leu Ser Gly Gln Arg Pro		
165	170	175
Ala Leu Gly His His Gln Leu Gln Ile Ala Lys Lys Leu Ser Lys Gly		
180	185	190
Ile Arg Pro Val Leu Gly Gln Pro Glu Glu Val Gln Phe Arg Arg Leu		
195	200	205
Gln Ala Leu Met Met Glu Cys Trp Asp Thr Lys Pro Glu Lys Arg Pro		
210	215	220
Leu Ala Leu Ser Val Val Ser Gln Met Lys Asp Pro Thr Phe Ala Thr		
225	230	235
Phe Met Tyr Glu Leu Cys Cys Gly Lys Gln Thr Ala Phe Phe Ser Ser		
245	250	255
Gln Gly Gln Glu Tyr Thr Val Val Phe Trp Asp Gly Lys Glu Glu Ser		
260	265	270
Arg Asn Tyr Thr Val Val Asn Thr Glu Lys Gly Leu Met Glu Val Gln		
275	280	285
Arg Met Cys Cys Pro Gly Met Lys Val Ser Cys Gln Leu Gln Val Gln		
290	295	300
Arg Ser Leu Trp Thr Ala Thr Glu Asp Gln Lys Ile Tyr Ile Tyr Thr		
305	310	315
Leu Lys Gly Met Cys Pro Leu Asn Thr Pro Gln Gln Ala Leu Asp Thr		
325	330	335
Pro Ala Val Val Thr Cys Phe Leu Ala Val Pro Val Ile Lys Lys Asn		
340	345	350
Ser Tyr Leu Val Leu Ala Gly Leu Ala Asp Gly Leu Val Ala Val Phe		
355	360	365
Pro Val Val Arg Gly Thr Pro Lys Asp Ser Cys Ser Tyr Leu Cys Ser		
370	375	380
His Thr Ala Asn Arg Ser Lys Phe Ser Ile Ala Asp Glu Asp Ala Arg		
385	390	395
Gln Asn Pro Tyr Pro Val Lys Ala Met Glu Val Val Asn Ser Gly Ser		
405	410	415
Glu Val Trp Tyr Ser Asn Gly Pro Gly Leu Leu Val Ile Asp Cys Ala		
420	425	430

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[illegible]

<210> 22
 <211> 253
 <212> PRT
 <213> Homo sapiens

<400> 22
 Met Leu Leu His Thr Glu Tyr Ser Leu Leu Ser Leu Leu His Thr Gln
 1 5 10 15
 Asp Gly Val Val His His His Gly Leu Phe Gln Asp Arg Thr Cys Glu
 20 25 30
 Ile Val Glu Asp Thr Glu Ser Ser Arg Met Val Lys Lys Met Lys Lys
 35 40 45
 Arg Ile Cys Leu Val Leu Asp Cys Leu Cys Ala His Asp Phe Ser Asp
 50 55 60
 Lys Thr Ala Asp Leu Ile Asn Leu Gln His Tyr Val Ile Lys Glu Lys
 65 70 75 80
 Arg Leu Ser Glu Arg Glu Thr Val Val Ile Phe Tyr Asp Val Val Arg
 85 90 95
 Val Val Glu Ala Leu His Gln Lys Asn Ile Val His Arg Asp Leu Lys
 100 105 110
 Leu Gly Asn Met Val Leu Asn Lys Arg Thr His Arg Ile Thr Ile Thr
 115 120 125
 Asn Phe Cys Leu Gly Lys His Leu Val Ser Glu Gly Asp Leu Leu Lys
 130 135 140
 Asp Gln Arg Gly Ser Pro Ala Tyr Ile Ser Pro Asp Gly Ser Ala Ala
 145 150 155 160
 Gly Arg Thr Val Ala Ser Pro Val Thr Cys Gly Pro Trp Ala Trp Cys
 165 170 175
 Ser Ser Pro Cys Cys Met Ala Ser Ser Pro Ser Thr Thr Ala Ser Arg
 180 185 190
 Arg Ser Ser Ser Ala Arg Ser Arg Leu Pro Ser Ile Pro Phe Leu Arg
 195 200 205
 Met Asp Gly Phe Leu Arg Thr Pro Cys Val Ser Ser Gly Ser Cys Trp
 210 215 220
 Ser Leu Thr Pro Ser Ser Ala Trp Pro Pro Pro Thr Ser Trp Arg Pro
 225 230 235 240
 Ser Val Pro Ser Leu His His Gly Ser Pro Cys His Leu
 245 250

<210> 23
 <211> 131

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<213> Homo sapiens

Met Ala Gly Gln Pro Gly His Met Pro His Gly Gly Ser Ser Asn Asn
1 5 10 15

Leu Cys His Thr Leu Gly Pro Val His Pro Pro Asp Pro Gln Arg His
20 25 30

Pro Asn Thr Leu Ser Phe Arg Cys Ser Leu Ala Asp Phe Gln Ile Glu
35 40 45

Lys Lys Ile Gly Arg Gly Gln Phe Ser Glu Val Tyr Lys Ala Thr Cys
50 55 60

Leu Leu Asp Arg Lys Thr Val Ala Leu Lys Lys Val Gln Ile Phe Glu
65 70 75 80

Met Met Asp Ala Lys Ala Arg Gln Asp Cys Val Lys Glu Ile Gly Leu
85 90 95

Leu Lys Gln Leu Asn His Pro Asn Ile Ile Lys Tyr Leu Asp Ser Phe
100 105 110

Thr Glu Thr Ser Ser Leu Pro Thr Cys Ser Ser Gln Pro Ala Pro Leu
115 120 125

Cys Leu Thr
130

<211> 104

<213> Homo sapiens

Met Val Thr Leu Gly Ala Pro Pro Tyr Pro Glu Val Pro Pro Thr Ser
1 5 10 15

Ile Leu Glu His Leu Gln Arg Arg Lys Ile Met Lys Arg Pro Ser Ser
20 25 30

Cys Thr His Thr Met Tyr Ser Ile Met Lys Ser Cys Trp Arg Trp Arg
35 40 45

Glu Ala Asp Arg Pro Ser Pro Arg Glu Leu Arg Leu Arg Leu Glu Ala
50 55 60

Ala Ile Lys Thr Ala Asp Asp Glu Ala Val Leu Gln Val Pro Glu Leu
65 70 75 80

Val Val Pro Glu Leu Tyr Ala Ala Val Ala Gly Ile Arg Val Glu Ser
85 90 95

Leu Phe Tyr Asn Tyr Ser Met Leu
100

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<400> 25
Met Thr Gln Glu Val Val Thr Gln Tyr Tyr Arg Ala Pro Glu Ile Leu
  1                               10                      15

Met Gly Ser Arg His Tyr Ser Asn Ala Ile Asp Ile Trp Ser Val Gly
      20                      25                      30

Cys Ile Phe Ala Glu Leu Leu Gly Arg Arg Ile Leu Phe Gln Ala Gln
      35                      40                      45

Ser Pro Ile Gln Gln Leu Asp Leu Ile Thr Asp Leu Leu Gly Thr Pro
      50                      55                      60

Ser Leu Glu Ala Met Arg Thr Ala Cys Glu Gly Ala Lys Ala His Ile
      65                      70                      75                      80

Leu Arg Gly Pro His Lys Gln Val Arg Gly Gly Gly Asn Leu Phe Leu
      85                      90                      95

Val Thr Ile Cys Leu Gly Lys Ile Ser Leu Pro Ile Glu
      100                      105

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<400> 26																
Gly	Thr	Arg	Asp	Lys	Lys	Leu	Trp	Arg	Thr	Phe	Phe	Ile	Ser	Pro	Ala	
1				5					10					15		
Asn	Asn	Ile	Cys	Phe	Tyr	Gly	Glu	Cys	Ser	Tyr	Tyr	Cys	Ser	Thr	Glu	
			20					25					30			
His	Ala	Leu	Cys	Gly	Lys	Pro	Asp	Gln	Ile	Glu	Gly	Ser	Leu	Ala	Ala	
		35					40					45				
Phe	Leu	Pro	Asp	Leu	Ser	Leu	Ala	Lys	Arg	Lys	Thr	Trp	Arg	Asn	Pro	
	50					55					60					
Trp	Arg	Arg	Ser	Tyr	His	Lys	Arg	Lys	Lys	Ala	Glu	Trp	Glu	Val	Asp	
65					70					75					80	
Pro	Asp	Tyr	Cys	Glu	Glu	Val	Lys	Gln	Thr	Pro	Pro	Tyr	Asp	Ser	Ser	
				85					90					95		
His	Arg	Ile	Leu	Asp	Val	Met	Asp	Met	Thr	Ile	Phe	Asp	Phe	Leu	Met	
			100					105					110			
Gly	Asn	Met	Asp	Arg	His	His	Tyr	Glu	Thr	Phe	Glu	Lys	Phe	Gly	Asn	

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<210> 27
<211> 70
<212> PRT
<213> Homo sapiens

<400> 27
Met Tyr Asn Ser Val Lys Gly Ser Cys Ser Glu Pro Val Ser Phe Thr
  1              5              10              15
Thr His Ser Cys Ala Pro Glu Cys Pro Phe Pro Pro Lys Leu Ala His
          20              25              30
Arg Ser Lys Ser Ser Leu Thr Leu Gln Trp Lys Ala Pro Ile Asp Asn
          35              40              45
Gly Ser Lys Ile Thr Asn Tyr Leu Leu Glu Trp Asp Glu Val Ser Leu
  50              55              60
Phe Ser Tyr Ser Pro Ile
  65              70

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<210> 28
<211> 15
<212> PRT
<213> Homo sapiens

<400> 28
Lys Ile Lys Thr Leu Gly Ile Gly Ala Phe Gly Glu Val Cys Leu
 1           5           10          15
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<400> 32
Gly Thr Ser Ile Leu Gly Pro Arg Leu Gly Asn Ser Pro Val Pro Ser
1 5 10 15
Ile Val Gln Cys Leu Ala Arg Lys Asp Gly Thr Asp Asp Phe Tyr Gln
20 25 30

Leu Lys Ile Leu Thr Leu Glu Glu Arg Gly Asp Gln Gly Ile Glu Ser
 35 40 45

Gln Glu Glu Arg Gln Gly Lys
 50 55

<210> 33
 <211> 76
 <212> PRT
 <213> Homo sapiens

<400> 33
 Pro Gly Ser Leu Glu Gln Leu Arg Pro Gln Gly Ser Ala Gly Ser Pro
 1 5 10 15

Lys Gly Cys Pro Ala Leu Gln Gln Met Leu Lys Ala Glu Gln Leu Arg
 20 25 30

Glu Gly Arg Trp Pro His Val Thr Asp Gly Gln Ile Pro Lys Ser Phe
 35 40 45

Leu Tyr Thr Val Val Asp Asn Leu Ser Trp Val Asn Lys Gly Arg Trp
 50 55 60

Phe Ser Glu Pro Arg Gln Pro Pro Val Ser Gly Leu
 65 70 75

<210> 34
 <211> 49
 <212> PRT
 <213> Homo sapiens

<400> 34
 Val Ile Ser Gly Leu Lys Tyr Leu His Ser Ala Gly Ile Leu His Arg
 1 5 10 15

Asp Ile Lys Pro Gly Asn Leu Leu Val Asn Ser Asn Cys Val Leu Lys
 20 25 30

Ile Cys Asp Phe Gly Leu Ala Arg Val Glu Glu Leu Asp Glu Ser Arg
 35 40 45

His

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